We claim:

1. A thermosetting protective and/or decorative coating composition comprising a co-reactable solid, particulate mixture of:

(a) a film-forming material comprising a copolymer containing functional groups; and

(b) a crosslinking agent having at least two functional groups that are reactive with the functional groups in the copolymer in (a), wherein (a) comprises from 20 to 95 wt.% and (b) comprises at least 5 to 80 wt.% of the combined weights of (a) and (b) and, wherein, when the composition is applied and cured as a coating, it forms a bicontinuous morphology where (a) and (b) form separate phases.

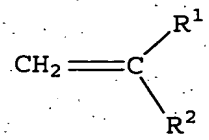
2. The composition of claim 1, wherein the miscibility of (a) with (b) is characterized by an interaction parameter, χ, of the copolymer in (a) with the crosslinking agent (b) of greater than 0.5.

3. The composition of claim 1, wherein the miscibility of (a) with (b) is characterized by the difference between the solubility parameter, δ_a, of the copolymer in (a) and the solubility parameter, δ_b, of the crosslinking agent (b) $(\delta_a - \delta_b)$ being greater than 2.

4. The composition of claim 1, wherein the copolymer in (a) comprises at least 30 mol % of residues having the following alternating structural units:

-[DM-AM]-

wherein DM represents a residue from a donor monomer having the following structure (I):

(I) 

wherein R^1 is linear or branched C_1 to C_4 alkyl, R^2 is selected from the group consisting of methyl, linear, cyclic or branched C_1 to C_{20} alkyl, alkenyl, aryl, alkaryl and aralkyl, and AM represents a residue from one or more acrylic acceptor monomers.

5. The composition of claim 1, wherein the crosslinking agent (b) comprises a polymer.

6. The composition of claim 1, wherein the functional groups of the film-forming material (a) are selected from the group consisting of epoxy, carboxylic acid, hydroxy, amide, oxazoline, isocyanate, capped isocyanate, carbamate, amine, thiol, aceto acetate, methylol, methylol ether and beta-hydroxyalkylamide; the functional groups of the crosslinking agent (b) are selected from the group consisting of epoxy, carboxylic acid, hydroxy, amide, oxazoline, aceto acetate, methylol, methylol ether, isocyanate, capped isocyanate and carbamate, beta-hydroxyalkylamide and thiol; and wherein the functional groups of the film-forming material (a) are reactive with those in the crosslinking agent (b).

7. The composition of claim 2, wherein the copolymer in (a) comprises residues of one or more carboxylic acid functional monomers and the crosslinking agent (b) contains two or more epoxy groups.

8. The composition of claim 7, wherein the carboxylic acid functional monomers include acrylic acid.

9. The composition of claim 4, in which the donor monomer is selected from the group consisting of isobutylene, diisobutylene, isoprene, dipentene, 1-octene, and mixtures thereof.

10. The composition of claim 1, wherein the copolymer in (a) has a number average molecular weight of from 500 to 30,000 and a polydispersity index of less than 4.

11. The composition of claim 5, wherein the polymer in (b) has a number average molecular weight of from 200 to 30,000 and a polydispersity index of less than 4.

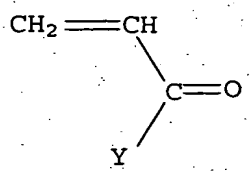
12. The composition of claim 1, wherein the copolymer in (a) has a functional group equivalent weight of from 100 to 5,000 grams/equivalent.

13. The composition of claim 5, wherein the polymer in (b) has a functional group equivalent weight of from 50 to 5,000 grams/equivalent.

14. The composition of claim 1, wherein the equivalent ratio of functional group equivalents in the copolymer of (a) to functional group equivalents in the crosslinking agent (b) is within the range of 1:3 to 3:1.

15. The composition of claim 1, wherein said crosslinking agent (b) is present in an amount of from 50 to 80 percent by weight, based on total weight of resin solids, and said film-forming material (a) is present in an amount of from 20 to 50 percent by weight, based on total weight of resin solids.

16. The composition of claim 4, wherein the acrylic acceptor monomers are one or more described by structure (III):

(III) 

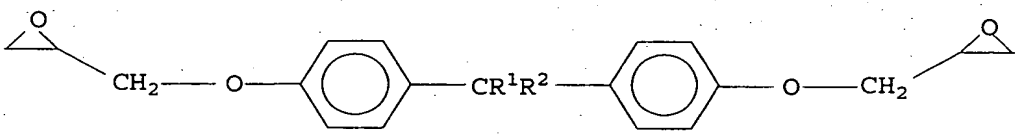
wherein Y is selected from the group consisting of $-NR^3_2$, $-O-R^5-O-C(=O)-NR^3_2$, and $-OR^4$, R^3 is selected from the group consisting of H, linear or branched C_1 to C_{20} alkyl, aryl, alkaryl and aralkyl containing one or more functional groups selected from the group consisting of epoxy, carboxylic acid, hydroxy, amide, oxazoline, isocyanate, capped isocyanate, carbamate, amine, thiol, aceto acetate, methylol, methylol ether and beta-hydroxyalkylamide; R^4 is selected from the group consisting of H, linear or branched C_1 to C_{20} alkyl, aryl, alkaryl and aralkyl containing one or more functional groups selected from the group consisting of epoxy, carboxylic acid, hydroxy, amide, oxalzoline, isocyanate, capped isocyanate, carbamate, amine, thiol, aceto acetate, methylol, methylol ether, and beta-hydroxyalkylamide; and R^5 is a divalent linear or branched C_1 to C_{20} alkyl linking group.

17. The composition of claim 16, wherein the acrylic acceptor monomer is one or more selected from the group consisting of hydroxyethyl acrylate, hydroxypropyl acrylate, acrylic acid, dimethylaminoethyl acrylate, acrylamide, glycidyl acrylate, glycidyl methacrylate, allyl glycidyl ether, vinyl glycidyl ether, n-butoxy methyl acrylamide, hydroxyethyl methacrylate, hydroxypropyl methacrylate, methacrylic acid, methacrylamide, 2-carbamoyloxyethyl acrylate, 2-carbamoyloxyethyl methacrylate, 2-carbamyloyloxypropryl acrylate, 2-carbamyloyloxypropryl methacrylate, 2-isocyanatoethyl acrylate, 2-isocyanatoethyl methacrylate, 2-isocyanatopropyl acrylate, 2-isocyanatopropyl

methacrylate, 2-oxazoline ethyl acrylate, 2-oxazoline ethyl methacrylate, 2-oxazoline propyl acrylate, 2-oxazoline propyl methacrylate, aceto acetate ester of hydroxyethyl acrylate, aceto acetate ester of hydroxyethyl methacrylate, aceto acetate ester of hydroxypropyl methacrylate, and aceto acetate ester of hydroxypropyl acrylate.

18. The composition of claim 5, wherein the polymer in the crosslinking agent (b) comprises epoxy functional groups.

19. The composition of claim 18, wherein the epoxy functional polymer is a condensation polymer comprising residues from adducts having the structural formula:



wherein R^1 and R^2 are independently selected from hydrogen and C_1-C_3 alkyl.

20. The composition of claim 1, wherein a cured coating layer deposited from the thermosetting composition, coated over at least a portion of a substrate, exhibits a specular gloss of not more than 10 gloss units when measured at 60° with a Byk-Gardner Haze-gloss Reflectometer.

21. The composition of claim 1, wherein the film-forming material (a) further comprises one or more other polymers containing functional groups.

22. A composition comprising a co-reactable solid, particulate mixture of:

(a) a film-forming material comprising a copolymer containing carboxylic acid functional groups comprised of at

least 30 mol % of residues having the following alternating structural units:

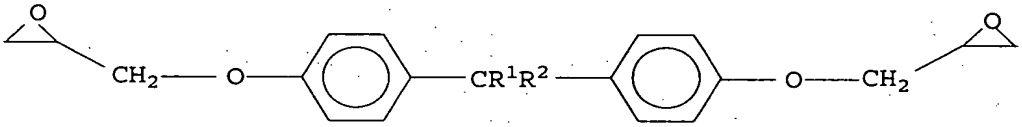
-[DM-AM]-

wherein DM represents a residue from a donor monomer selected from the group consisting of isobutylene, diisobutylene, dipentene, 1-octene, isoprene, and mixtures thereof; and AM represents a residue from one or more acrylic acceptor monomers selected from the group consisting of acrylic acid and methacrylic acid; and

(b) a crosslinking agent comprising a condensation polymer containing at least two epoxy functional groups that are reactive with the carboxylic acid functional groups in the copolymer in (a),

wherein a cured coating layer deposited from the thermosetting composition, coated over at least a portion of a substrate, exhibits a specular gloss of not more than 10 gloss units when measured at 60° with a Byk-Gardner Haze-gloss Reflectometer.

23. The composition of claim 22, wherein the polymer in (b) is a condensation polymer comprising residues from adducts having the structural formula:



wherein R^1 and R^2 are independently selected from hydrogen and C_1-C_3 alkyl.

24. The composition of claim 22, wherein the interaction parameter, χ, of the copolymer in (a) with the crosslinking agent (b) is greater than 0.5.

25. The composition of claim 22, wherein the difference between the solubility parameter, δ_a, of the copolymer in (a)

and the solubility parameter, δ_b, of the crosslinking agent (b) $(\delta_a - \delta_b)$ is greater than 2.

26. The composition of claim 22, wherein (a) comprises from 20 to 95 wt.% and (b) comprises at least 5 to 80 wt.% of the combined weights of (a) and (b) and, wherein, when the composition is cured, it forms a bicontinuous morphology where (a) and (b) form separate phases.

27. A method of coating a substrate comprising:

(A) applying the composition of claim 1 to the substrate;

(B) coalescing the composition to form a substantially continuous, thin film; and

(C) curing the composition.

28. A method of coating a substrate comprising:

(A) applying the composition of claim 22 to the substrate;

(B) coalescing the composition to form a substantially continuous, thin film; and

(C) curing the composition.

29. A substrate coated using the method of claim 27.

30. A substrate coated using the method of claim 28.

31. A multi-component composite coating composition comprising:

(a) a base coat deposited from a pigmented film-forming composition; and

(b) a transparent top coat applied over the base coat, wherein either the base coat or the transparent top coat or both is deposited from the composition of claim 1.

32. A multi-component composite coating composition comprising:

(a) a base coat deposited from a pigmented film-forming composition; and

(b) a transparent top coat applied over the base coat, wherein either the base coat or the transparent top coat or both is deposited from the composition of claim 22.

33. A multi-component composite coating composition comprising:

(a) a primer coat deposited by electrocoating a conductive substrate serving as a cathode in an electrical circuit comprising the cathode and an anode, the cathode and the anode being immersed in an aqueous electrocoating composition, by passing an electrical current between the cathode and the anode to cause deposition of the electrocoating composition on the substrate as a substantially continuous film;

(b) a base coat applied over the primer coat, wherein the base coat is deposited from a pigmented film-forming composition; and

(c) a transparent top coat applied over the base coat, wherein the base coat or the transparent top coat or both are deposited from the composition of claim 1.

34. A multi-component composite coating composition comprising:

(a) a primer coat deposited by electrocoating a conductive substrate serving as a cathode in an electrical circuit comprising the cathode and an anode, the cathode and the anode being immersed in an aqueous electrocoating composition, by passing an electrical current between the cathode and the anode to cause deposition of the electrocoating composition on the substrate as a substantially continuous film;

(b) a base coat applied over the primer coat, wherein the base coat is deposited from a pigmented film-forming composition; and

(c) a transparent top coat applied over the base coat, wherein the base coat or the transparent top coat or both are deposited from the composition of claim 22.

35. A substrate coated with the multi-component composite coating composition of claim 31.

36. A substrate coated with the multi-component composite coating composition of claim 32.

37. A substrate coated with the multi-component composite coating composition of claim 33.

38. A substrate coated with the multi-component composite coating composition of claim 34.